

### **REMARKS**

Claims 1-2, 5-6, 9-11, 14-15, 18-21, and 34-35 are pending in the above-identified application. Claims 1 and 10 have been amended. The present amendments to the claims do not introduce new matter into the application as originally filed. Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

### **Claim Objections**

Claims 1 and 10 are objected to because the last 3 lines in the claims with regard to the limitation of X groups are not clear (paragraph 3 of the outstanding Office Action). The Examiner requests alternative language. Claims 1 and 10 have been amended herein accordingly. As such, Applicants respectfully request that the objection be withdrawn.

### **Issues under 35 U.S.C. § 103(a)**

Claims 1-2, 5-6, 9-11, 14-15, 18-21, and 34-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Minakata '010 (US 7,061,010), Nanpo '719 (JP 2004-158719), and Levinson et al. '933 (WO 2000/056933) (paragraphs 4-7 of the outstanding Office Action).

Applicants respectfully traverse. Reconsideration and withdrawal of this rejection are respectfully requested based on the following considerations.

### **Legal Standard for Determining Prima Facie Obviousness**

MPEP 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

*Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Exemplary rationales that may support a conclusion of obviousness include:

- (a) combining prior art elements according to known methods to yield predictable results;
- (b) simple substitution of one known element for another to obtain predictable results;
- (c) use of known technique to improve similar devices (methods, or products) in the same way;
- (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (e) “obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success
- (f) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;
- (g) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. See MPEP 2143.03.

*Distinctions over the Cited References*

Minakata ‘010 discloses, “The derivatives in Group 1 have functional groups only at the substitution positions in the long-axis direction, and the derivatives in Group 2 have functional groups only at the substitution positions in the short-axis direction. These derivatives are preferable since they enable high solubility in organic semiconductor thin films” (col. 3, lines 16-22).

Further, Minakata ‘010 discloses, “However, it seems to be because carrier transport is likely to be blocked by functional groups if a polyacene has functional groups at the substitution

positions in both the long and short-axis directions as in those in Group 3, since molecules of a polyacene are in stacked form in a thin film” (col. 3, lines 22-27).

In this regard, the present invention would fall under Group 3 since the polyacene compound of the present invention has functional groups at the substitution positions in both the long- and short-axis directions. As such, Minakata ‘010 actually teaches away from the present invention. The other cited references do not refute this teaching.

On page 7 of the outstanding Office Action, the Examiner asserts that the results in the previously submitted Rule 132 Declarations would be expected. However, in view of the teaching of Minakata ‘010 discussed above, Applicants respectfully submit that the results shown in the previously submitted Rule 132 Declarations would be unexpected. As such, the Examiner is respectfully requested to review the previously submitted Declarations again as they provide strong evidence of the patentability of the present invention.

Moreover, the Examiner alleges, “The alkyl groups are prone to oxidation, whereas F or Cl increases the solubility, and therefore, replacing alkyl with F or Cl will make the compound with improved solubility and oxidation resistance. These properties are predictable for a skilled person in the art in view of the chemical properties of the ring and substitutions” (paragraph 7 of the outstanding Office Action).

However, the polyacene compound of the present invention is not one in which the alkyl group is replaced by the halogen group, but one in which both the alkyl group and the halogen group are introduced. Hence, arriving at the polyacene group having superior solubility and acid resistance would not have been an easy task even for one of ordinary skill in the art.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, Minakata ‘010, Nanpo ‘719, and Levinson et al. ‘933 fail to disclose all of the claim limitations of independent claims 1 and 10, and those claims dependent thereon. Accordingly, the combination of references does not render the present invention obvious.

Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejection is respectfully requested. Any contentions of the USPTO to the contrary must be reconsidered at present.

**Conclusion**

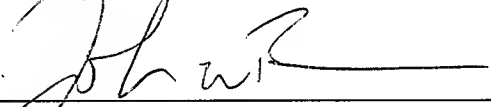
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Registration No. 58,258, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: MAR 15 2011

Respectfully submitted,

By 

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